ABSTRACTS

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SYPHILIS (General)

An Evaluation of Public-health Measures for the Control of Syphilis. An Epidemiological Study. MOORE, J. E. (1951). *Lancet*, **1**, 699. (1951) *Amer. J. Syph.*, **35**, 101, 22 figs, 26 refs.

This long paper, illustrated by many graphs which depict situations more vividly than is possible through the printed word, is the substance of the Malcolm Morris Lecture for 1950, delivered at St. Mary's Hospital, London.

It is established on reliable clinical grounds, but without statistical testimony, that the characteristics of syphilis have undergone a profound alteration during its 450 years of recognized history. Malignant destructive changes have been replaced by less obvious, but often more serious, lesions in the cardiovascular and nervous systems, and by latency. Indeed within the last 30 years in the U.S.A. the incidence of early asymptomatic neurosyphilis has declined from 25 to 40 per cent. to 5 to 15 per cent., indicating that the change continues. No data, other than recent, are available for civil populations, but it is believed that the military incidence does to some extent mirror the situation of the district in which the troops are stationed. Graphs showing the figures for the Prussian, British, and United States armies are presented. In the Prussian army the combined incidence of chancroid and early syphilis declined from 30 per 1,000 in 1866 to 8·2 per 1,000 in 1911. In the British army the syphilis rate in 1890 was no less than 101·8 per 1,000, and fell to 5·5 per 1,000 in 1924. In the American army, excluding troops stationed overseas, the rate was 40 per 1,000 in 1821 and rose to 73·2 per 1,000 after the Civil War (1861–5), but by the time of World War II it was as low as 5·9 per 1,000.

It is concluded, therefore, that during the period 1865 to 1910 there was a spontaneous decline in the incidence of fresh infections with syphilis in military personnel, and by inference amongst civilians also. This was unrelated to public health measures since, before 1910, such control was almost non-existent apart from half-hearted and unsuccessful attempts to regularize prostitution. In any event this decline was also evident in the U.S.A. where regularized prostitution has never been considered an important factor in the spread of venereal diseases. It is possible that a change has occurred in the host-parasite relationship, indeed a similar trend was noted in the figures for mortality due to tuberculosis even before the discovery of the tubercle bacillus and the institution of methods of control, and a similar decline has been noted in the seriousness of scarlet fever. On the other hand, it is considered more likely that the decline is principally associated with improved socio-economic status, for both mortality from tuberculosis and morbidity from syphilis have a higher incidence amongst unskilled persons. As far as syphilis is concerned, the Kinsey report showed that unskilled persons run the risk of infection sixteen times more frequently than professional men. The rises in incidence that occur in war-time are not confined to countries actually fighting. A graph is presented which shows, during the period 1914 to 1918, a parallel rise in the incidence of early syphilis, though at a lower level, in the neutral Dutch army as in the troops of France. It is postulated that a man has an approximately constant number of intercourses a year and that in war-time when homes are broken and normal sexual alliances interrupted, he continues at his usual rate but that his consorts are of necessity more numerous. It is also pointed out that populations have been relatively more stable since 1910 and this fact may have contributed to a fall in the incidence since that time. Moreover, since 1910 effective treatment has been available and there are many civilian figures which show clearly the accelerated fall in incidence which followed after an inevitable time-lag of 8 to 10 years. The possible effect of penicillin in aiding the decline cannot be measured until another decade has passed, and the present decline is not sufficient to allow a relaxation of control methods.

In view of increasing transport facilities, syphilis can never be stamped out in one country while it still exists in another, while the problems of treating populations of the magnitude of those of India and China are so vast that the author does not believe that control will be achieved by treatment alone. He considers that research should be intensified and directed towards the goal of an immunizing vaccine. But until virulent spirochaetes can be successfully cultured no trials can be made.

[The author adopts a global viewpoint towards syphilis, and his comprehensive and interesting paper should be consulted in the original.] *R. R. Willcox*

Effectiveness of Penicillin in the Prevention of Congenital Syphilis. SHAFFER, L. W., and COURVILLE, C. J. (1951). *Arch Derm. Syph., Chicago*, **63**, 91. 7 refs.

A series of 631 women who had been treated for syphilis with penicillin in amounts varying from 2,400,000 to 9,600,000 units gave birth to a total of 636 infants, including five sets of twins ; 225 were treated before and the remainder during pregnancy.

There were 58 " disastrous " results (sixteen abortions and miscarriages, 21 stillbirths, sixteen neonatal deaths, and five living syphilitic children) ; three infants were lost to observation ; 575 (90·41 per cent.) were normal. This last figure compares favourably with that of 87·6 per cent. for 4,902 normal pregnancies. Of the 58 disastrous results, seven were regarded as due to syphilis (one stillbirth, one neonatal death, and five infected children), fourteen as possibly due to syphilis, and 37 as not due to the disease.

Of the 631 women, 225 had been treated with penicillin alone or in combination with oxophenarsine hydrochloride and bismuth before, but not during, pregnancy. Of these 225, 167 were sero-negative or did not have serum tests, and 58 were sero-positive at the time of delivery. There were ten disasters, none due to syphilis, among the former, and fourteen among the latter (three due to relapse late in pregnancy, three to lack of treatment, one to lack of cooperation by the patient, and four possibly to syphilis ; only three were probably not due to syphilis). From these figures it is concluded that pregnant women who have been treated previously need not be retreated during pregnancy if they have become, and remained, sero-negative, nor need those who are sero-positive if the titre is low [and there are no clinical signs of syphilis].

In 27 women who were treated for early infectious syphilis during pregnancy with 3 to 9·6 million units of penicillin (thirteen received arsenic and bismuth as well) there were six disastrous results, two of which were due to syphilis as a result of treatment failure or reinfection during the last month of pregnancy.

Radiographs were taken of the long bones of most of the babies in whom the cord blood was positive ; even when these showed [syphilitic] changes it was found that if the mother had had adequate treatment the baby was cured by this and did not itself require treatment.

Two types of antibody are produced in the Rh-sensitized mother ; a univalent one, detected by complement-fixation tests, which can pass through the placenta; and a bivalent one, detected by flocculation tests, which cannot. In the case of the former the titres are the same in the mother and child ; in the latter the level of reagin is lower in the child's than in the mother's blood.

Penicillin given at any time will either protect or cure the child in nearly 100 per cent. of cases.

T. E. Osmond

Njovera : an Endemic Syphilis of Southern Rhodesia. Comparison with Bejel. WILLCOX, R. R. (1951). *Lancet*, **1**, 558. 1 fig, 12 refs.

Among the natives of some rural areas of Southern Rhodesia there occurs an endemic disease which closely resembles syphilis and is known as " njovera ". The disease does not appear to be of venereal origin and is usually first seen in children. Njovera is not generally recognized until the stage of generalization occurs, the lesions of which (mucous patches on the lips, vulval and anal condylomata, adenitis, and framboesiform cutaneous lesions) follow the general pattern of the secondary stage of syphilis. Although the primary lesion is rarely identified, the author considers that the transmission of the infection is non-venereal ; he places the responsibility for the dissemination of the infection upon such factors as dirt, overcrowding, flies, and communal feeding habits and implements.

The Kahn test is usually positive and from the moist lesions an organism indistinguishable from *Treponema pallidum* is readily obtained. The lesions heal rapidly after treatment with penicillin, bismuth, or neoarsphenamine. The incidence of the disease appears to be diminishing and this decline is ascribed to the effects of anti-syphilitic treatment, facilities for which are available in government clinics. Points of similarity to, and diversity from, syphilis and bejel are discussed. The author believes that njovera and bejel are in fact syphilis.

V. E. Lloyd

Syphilitic Retinal Periphlebitis. (Périphlébite rétinienne d'origine syphilitique.) FRANÇOIS, P., and LESAGE, C. (1950). *Bull. Soc. Ophtal. France*, No. 7, 612.

Bilateral chronic glaucoma with periphlebitis of the retinal vessels was observed in a case of neurosyphilis.

J. Rougier

Detachment of the Vitreous in a Case of Syphilitic Chorio-retinitis. (Desprendimiento de vitreo en una corioretinitis luética.) LIJÓ PAVIA, J., and AROUH, J. (1951). *Rev. oto-neuro-oftal.*, **26**, 3. 2 figs.

The authors draw attention to the bibliography on this subject and to the exactness of the observations of Kraupa and Vogt, confirmed by Busacca and Lijó Pavia.

They describe a case examined by red-free and sodium light which had been serially photographed. Their method of examining the vitreous is described in detail.

Authors' Summary

SYPHILIS (Pathology)

The Serological Diagnosis of Congenital Syphilis in Infants and Young Children. (Die Blutserumreaktion als Diagnostikum der Lues congenita beim Säugling und Kleinkind.) GUMPESBERGER, G. (1950). *Z. Haut- u. GeschlKr.* **9**, 505. 38 refs.

The diagnosis of congenital syphilis is discussed. In the absence of clinical manifestations the Wassermann reaction remains the mainstay of diagnosis. Radiological study of the skeleton is at times of little help, as the changes may be simulated by non-specific conditions. The " luotest " reaction [an intradermal luetin test] becomes positive only after the first year of life and therefore is of no use in early diagnosis. Similarly, the cerebrospinal fluid is often normal in these infants and its examination therefore unjustified because at this age it is not even of prognostic value.

The author found that passive transfer of reagin, as shown by the finding of positive reactions in cord blood with early decline to negative, was present in only 3·5 per cent. of infants born to syphilitic women. These children are naturally healthy and need no treatment. Diagnosis and treatment should be delayed in an apparently healthy infant whose only abnormality is a positive reaction in the cord blood until further tests can be taken 2 to 3 weeks later ; if the Wassermann reaction is still positive, treatment is instituted. If the reaction in cord blood is positive, but that in the mother's blood negative, the child is treated as a congenital syphilitic, for it is thought that the reagin must have been produced in the child. If the apparently healthy infant has a negative Wassermann reaction but that of the mother is positive, regular blood tests and radiographs should be taken during the first year of life and possibly longer. Prophylactic treatment of the infant is advised if the mother was untreated. In the majority of affected infants the serum reaction will become positive within 3 months if it was not so at birth. In one case it became positive at 9 months. If it is negative in mother and child at the time of birth, the chance that congenital syphilis is present is minimal.

[Radiological examination of long bones, particularly in early congenital syphilis, can be of real diagnostic value. To treat an apparently healthy infant for syphilis because its Wassermann reaction is still positive at 2 to 3 weeks might be deemed hasty by some, because in a great number of cases it is known to have reverted permanently without treatment to negative after 3 to 4 months ; it should therefore be permissible to wait that long, unless the titre of the reaction is rising.] *G. W. Csonka*

Pathological Relationships of the Inclusion Urethritis Syndrome : Reiter's Syndrome, Atypical Pneumonia, Pneumopathies with Positive Syphilitic Serology of the Franconi Type. (Les parentés morbides du syndrome urétrite à inclusions : le syndrome de Reiter, les pneumonies atypiques, les pneumopathies, à sérologie syphilitique positive, type Franconi.) THIERS, H. (1950). *Bull. Soc. franç Derm. Syph., Paris,* **57**, 206.

An account of three personal cases of Reiter's syndrome bringing a new contribution to its pathogenesis ; the author stresses the importance of urethral inclusion cells in the diagnosis of some atypical, recently described syndromes of the lung. *S. Vallon*

Role of the Portal of Entry in Transmission of Syphilis to Mice. (Role de la porte d'entrée dans la transmission de la syphilis a la souris.) VAISMAN, A. (1950). *Ann. Derm. Syph., Paris,* **10**, 651. 3 figs, 9 refs.

The author has found that whereas to infect mice with syphilis by the subcutaneous route (the most commonly used) it is necessary to use a large number of organisms, a much smaller dose is effective by cutaneous application (on a manually epilated area or lightly rubbed tail) or intravaginal inoculation. This difference is probably due to local destruction of the organisms in the subcutaneous tissues before they can reach their zones of election, the same protective response not being elicited in the superficial layers of the skin and certain mucous membranes. *James Marshall*

A Study of the Filter Paper Microscopic (FPM) Test for Syphilis. Preliminary Report. HARRIS, A., and OLANSKY, S. (1951). *J. vener. Dis. Inform,* **32**, 1. 1 ref.

SYPHILIS (Therapy)

Results of Penicillin Therapy for Neurosyphilis at Bellevue Hospital. DATTNER, B., THOMAS, E. W., and DE MELLO, L. (1951). 3 refs.

Over 600 patients with neurosyphilis have now been treated with penicillin alone at Bellevue Hospital, New York. Of these 555 had active neurosyphilis with a raised cell count in the cerebrospinal fluid, and 438 o these were subjected to further cerebrospinal fluid examinations 6 months or more after treatment. A few patients were transferred to mental hospitals, and fifteen are known to have died, although none of the fifteen deaths was attributable directly to syphilis.

Of the 438 patients, 114 had asymptomatic neurosyphilis, ninety meningovascular syphilis, 82 tabes dorsalis, 67 general paresis, 31 tabo-paresis, forty optic atrophy, and fourteen Erb's spastic paralysis. The dose of penicillin (in millions of units) was as follows :

29 patients, 2	38 patients, 3	70 patients, 4
42 patients, 5	205 patients, 6	4 patients, 7·2
50 patients, 9		

During a follow-up of 6 to 75 months the fluids of 400 became inactive. Of the 38 failures only 31 were retreated at Bellevue : 25 were retreated only once ; three twice ; and three three times. Of the 31 retreated patients, 27 had inactive fluid when last examined, two were not followed up for 6 months after treatment, and two failed to respond. The authors recommend procaine penicillin with 2 per cent. aluminium monostearate, giving fifteen daily injections of 600,000 units each. *R. R. Willcox*

The Combined Treatment of Recent Syphilis with Arsphenamine and Penicillin. (Über kombinierte Salvarsan-Penicillin-Behandlung der rezenten Lues.) SCHREUS, H. T., and GAHLEN, W. (1951). *Derm. Wschr.* **10**, 34. 1 fig, 14 refs.

Of recent syphilitic infections 80 per cent. can be considered to be cured by arsphenamine treatment ; a similar proportion would respond to penicillin therapy. The authors consider that the 20 per cent. residue of resistant cases in the two groups need not be " identical " and have therefore combined the penicillin and arsenical treatments. They give 6,000,000 units of penicillin in 16 days, giving one injection of 400,000 units daily, together with a simultaneous course of neoarsphenamine and bismuth, the latter lasting 20 days longer than the penicillin course. The progress of each case was assessed periodically, serum reactions being marked as + to + + + + and the following tests used : the Wassermann reaction with an extract of beef heart, the Wassermann reaction with syphilitic liver, the Wassermann-Schreus reaction, the citochol reaction, the Meinicke clearing reaction, and the Sachs-Georgi reaction. All

these tests were carried out in each assessment ; the results were added up and divided by two. The results showed that up to a reading of five only flocculation reactions were positive and that between seven and twelve the complement-fixation reactions became positive. By this method a parallelism between clinical findings and complement-fixation reactions appears. A diagram which illustrates the results in 22 cases is reproduced.

At the end of the first course of treatment twelve cases were Wassermann-negative ; 5 weeks later, without any additional treatment, a further eight were negative. During the same interval the strength of flocculation reactions in the first-mentioned twelve cases had decreased and reactions had become negative in three cases. The serological reactions therefore changed more rapidly than after penicillin treatment and more regularly than after arsenic and bismuth therapy.

The authors intend to cut down the doses employed at present and to determine a " minimum effective dose " in order to reduce the duration of administration and thus develop a "short cure". At present they are treating a series of cases with two 16-day courses of penicillin as above, but with the arsphenamine-bismuth part of the course limited to the 16 days during which penicillin is given and the total dose of neoarsphenamine and bismuth reduced. *Ferdinand Hillman*

Treatment of Experimental Syphilis with a Combination of Penicillin and Bismuth. (Traitement de la syphilis expérimentale par l'association pénicilline-bismuth.) LEVADITI, C., and VAISMAN, A. (1950). *Pr. méd.*, **58**, 1397. 10 refs.

Experimental treatment of syphilis in rabbits demonstrated that the best results are obtained with a combination of depot-penicillin and bismuth. With this combination disappearance of spirochaetes and healing of lesions is more rapid, and sterilization of the lymphatic system, blood, spleen, and bone marrow is obtained with smaller doses of the medicaments than when either drug is used alone. *James Marshall*

Two-hour versus Three-hour Administration of Crystalline Penicillin G. The Treatment of Early Syphilis. BUNDESEN, H. N., RODRIQUEZ, J., and SCHWEMLEIN, G. X. (1950). *J. Lab. clin. Med*, **36**, 759. 2 figs, 2 refs.

In this investigation 184 patients with dark-field positive primary and secondary syphilis received 2·4 megaunits of aqueous penicillin G over a period of 7½ days. The penicillin was administered 2-hourly. There was no significant difference between the failure rate with this method of administration and the failure rate when the same total dosage of penicillin was given 3-hourly. *A. W. H. Foxell*

Twenty-seven Cases of Syphilitic Aneurysm of the Thoracic Aorta and its Branches. BORRIE, J., and GRIFFIN, S. G. (1950). *Thorax*, **5**, 293. 12 figs, 17 refs.

The authors review the treatment of 27 patients suffering from aneurysm of the thoracic aorta at the Shotley Bridge Thoracic Surgical Centre, Newcastle-upon-Tyne, and give a historical account of the various attempts that have been made to treat this condition surgically. These have included various forms of wiring, electro-thermic coagulation, and the production of fibrosis by " cellophane ".

Of the 27 cases under review, twenty involved the ascending aorta, four the descending aorta, and three the innominate artery ; 21 of the aneurysms were saccular, and six were fusiform. The symptoms and signs in these cases are described in detail. The Wassermann reaction was positive in 24 of the cases. The treatment in eleven of the 27 cases was conservative : of these patients seven were dead within 15 months, and although one who had radiotherapy improved for 14 months, the aneurysm subsequently ruptured into the trachea. Two cases of fusiform aneurysm were treated by cellophane wrapping. Nine of the remaining patients were treated by wiring by Colt's method (details of which are given) : one died as an immediate result of the procedure, the aneurysm being fusiform in type and the aorta becoming completely occluded by the wire ; two of those who already had tracheal compression died shortly after operation ; and five of the remaining six are alive and well, the sixth having died 15 months after the operation.

The authors conclude that accurate diagnosis of the site and type of the aneurysm is essential, and that saccular aneurysms should be treated by Colt's wiring and those of the fusiform type probably by cellophane wrapping. *J. R. Belcher*

Treatment of Early Syphilis with Four Weekly Injections of Procaine Penicillin and Aluminium Monostearate. Preliminary Report. BUSCHEMEYER, W. C., LOVEMAN, A. B., and ZAUGG, F. B. (1951). *Amer. J. Syph.*, **35**, 67. 6 refs.

In 44 out of 53 cases of early syphilis treated with 300,000 units of procaine penicillin in aluminium monostearate there was a good response at the end of 6 months. Of these 44 patients, 38 had become, and remained, negative to serological tests. Of the remaining nine, one was reinfected, three relapsed serologically, four had muco-cutaneous relapses, and one had involvement of the central nervous system. *G. M. Findlay*

Treatment of Early Syphilis with Penicillin, Mapharsen, and Bismuth (Combined Therapy). CHARGIN, L., SOBEL, N., and ROSENTHAL, T. (1951). *Arch. Derm. Syph., Chicago*, **63**, 104. 17 refs.

Numerous investigators have reported that combined treatment with penicillin, arsenic, and bismuth gives better results than penicillin alone in both human and experimental syphilis. In order to test this, 470 patients suffering from early syphilis were treated with 6 million units of penicillin (either in oil-wax or as procaine penicillin with aluminium monostearate) given daily for 10 consecutive days, followed by twenty injections of oxophenarsine (0·045 to 0·06 g. twice weekly for 10 weeks) and a weekly injection of bismuth for 10 weeks, concurrent with or following the arsenic ; the total period of treatment was 10 to 16 weeks.

Of 72 patients (15·4 per cent.) with sero-negative primary syphilis, seventy remained sero-negative and two relapsed or were reinfected; of 67 with sero-positive primary syphilis, 62 became sero-negative, four remained sero-positive, and one was a failure; of 170 with secondary syphilis, 132 became sero-negative, 37 remained sero-positive, and one failed; of 161 with early latent syphilis, 88 became sero-negative and 73 remained sero-positive. The observation period was 8 to 21 months and the success rates in the four groups were 97·1, 92·5, 77·6, and 54·6 per cent. respectively; when these figures were compared with those obtained when penicillin only, in total dosage of 4·8 million units over 16 days, was employed, little difference was noted; a similar percentage of patients remained sero-positive with the two types of treatment. It is in the relapse or reinfection rates that a big difference was noted; 3·9 per cent. with penicillin alone and 0·85 per cent. with combined therapy. Arsenical toxic dermatitis was relatively rare, though in some cases severe; there were no fatalities. It is concluded that in sero-negative primary syphilis penicillin alone is adequate, but that in sero-positive early syphilis there is a case for employing combined treatment.

[Most syphilologists in Great Britain use bismuth as well as penicillin, and some employ arsenic as well; the objection to arsenic is the risk of toxic reactions, but this to some extent is offset by the effectiveness of BAL. It is obvious that early reinfection is much less likely after combined treatment than after penicillin alone, and in some degree this would apply to early relapse, since bismuth remains in the tissues for a comparatively long period.] *T. E. Osmond*

Late Congenital Syphilitic Interstitial Keratitis Treated with Large Doses of Penicillin and Conjunctival Placental Grafting. (Kératite interstitielle congénitale syphilitique tardive, traitée par doses énormes de pénicilline, puis greffe sous conjonctivale de placenta.) MERKLEN, F. P., VOISIN, J., ROGÉ, J., and COTTENOT, F. (1950). *Bull. Soc. franç. Derm. Syph. Paris*, 508.

A congenital syphilitic interstitial keratitis in a 17-year-old boy, was treated with penicillin (one injection of one million U. every day during five months, along with some subconjunctival injections): "Bivatol" was given at the same time. During the course of the treatment, penicillin therapy was discontinued twice, and had to be resumed owing to a recurrence of the keratitis. In the fifth month, a bilateral conjunctival placental grafting was performed. At the end of the treatment, vision was right eye 9/10, left eye 4/10.

S. Vallon

GONORRHOEA (General)

The Danger of Penicillin Therapy in Gonorrhoea. REEKIE, A. A. M. (1951). *Lancet*, **1**, 327. 13 refs.

Though the possibility that a concomitant syphilitic infection may be masked or modified by penicillin therapy of gonorrhoea has been appreciated since 1944, it is generally held that when such is the case, clinical or serological evidence of syphilis is usually forthcoming within 3 months of infection. In this article the author describes three cases of gonorrhoea treated with 150,000 units of procaine penicillin, in which two of the patients were found to have sero-negative primary syphilis 10 to 11 weeks after treatment, and the third secondary syphilis 19 weeks after treatment. All three patients denied exposure to risk of reinfection, and it is of particular interest that each one of them had complained of shivering and headache a few hours after penicillin therapy.

The author concludes that unexplained fever and malaise occurring shortly after penicillin treatment of gonorrhoea strongly suggests a Herxheimer reaction in a still incubating syphilitic infection, and he [rightly] stresses that all patients should be questioned after treatment and that those complaining of such side-effects should be carefully observed, both clinically and serologically, for 6 months. *G. L. M. McElligott*

Bacteriological Studies in Salpingitis with Special Reference to Gonococcal Viability. HUNDLEY, J. M., DIEHL, W. K., and BAGGOTT, J. W. (1950). *Amer. J. Obstet. Gynec.* **60**, 977. 4 refs.

The frequency of recurrence of gonococcal pelvic inflammation has long been noted, as well as the fact that, in gonococcal infections of the genital tract, acute pelvic inflammation becomes quiescent and symptomless within a short time whereas urethral, cervical, and Bartholin gland infections persist for months or even years. The present investigation was carried out to determine whether the repeated attacks of salpingitis in such cases were due to reinfection from a distant source such as the urethra or cervix, or were recrudescences of a residual infection. In 1931 Curtis concluded that in the Fallopian tube the life of the gonococcus was short, the pus becoming sterile in 10 to 14 days after the acute symptoms had abated, and that therefore the tube was not a focal point of reinfection, the flare-ups being due to true reinfection from the lower genital tract. Studdiford and his colleagues, on the other hand, in 1938 found the gonococcus present in the tubes of 66·6 per cent. of the 24 consecutive patients whose tubes and ovaries were removed after they had been afebrile for at least 2 weeks.

The present authors' investigations were made on eighty women who had gonorrhoea and had not received any treatment by chemotherapy or antibiotics. Smears and cultures were obtained in all cases from the urethra, cervix, and the lumen of the tube. Sections of the tube wall were also macerated and cultures then made.

Positive gonococcal cultures were obtained from the urethra or cervix or both in 41·25 per cent. The gonococcus was not present in the Fallopian tubes alone in any case, but it was found in five cases (6·25 per cent.) in which the urethra or cervix was also infected. The authors conclude therefore that persistent gonorrhoea in women is a disease primarily of the lower genital tract. The Fallopian tube is not a focal point of reinfection, reinfection coming from the cervix, urethra, and Bartholin glands, most likely at the time of menstruation, for at this period, and also at the time of ovulation, the

cervical mucus is penetrable. Every effort should therefore be concentrated on eradicating the infection in the lower genital tract in order to prevent ascending disease. *F. J. Browne*

Gonoccocal Rheumatism as a Clinical Entity. (Le rhumatisme blennorragique n'est pas un vain mot.) WEIL, M. P. (1950). *Rev. Rhum.*, **17**, 562.

GONORRHOEA (Pathology)

Nile Blue A, as an Agent Suppressing Concomitant Bacterial Growth in Gonococcal Cultures. (Niblau A, ein Mittel zur Hemmung des Wachstums der Begleitbakterien bei der Kultur der Gonokokken.) SCHÜMMER, H., and HUBBES, A. (1950). *Arch. Derm. Syph., Wien*, **192**, 61.

It was found that the comparatively high concentration of 0·5 mg. Nile blue A per 100 ml. serum agar did not harm gonococci but was efficient in suppressing contaminants. Nile blue B, on the other hand, was too toxic for gonococcal growth. *G. W. Csonka*

GONORRHOEA (Therapy)

Prophylaxis against Ophthalmia Neonatorum. Penicillin as a substitute for Credé's method. (Profilaxis de la oftalmia neonatorum. Utilización de la penicilina en substitución del método Credé.) CANDANO, A., AVILA CISNEROS, I., and ARELANO, J. F. (1950). *Bol. Soc. méd Centro materno-infantil*, **1**, 57. 1 tab.

This study compares penicillin and silver nitrate in the prophylaxis of ophthalmia neonatorum in two groups of new-born children. Of the first group, 496 children were given four instillations of 1 drop penicillin solution of 2,500 U. per ml. The first instillation was done during the first hour of life and the other three in the next three days, once daily. The second group of 426 children was treated by Credé's method and 20 per cent. showed conjunctival reaction. In the first group, in which penicillin was used as a prophylactic, only 2 per cent. showed conjunctivitis and this cleared up quickly. It is concluded that penicillin is of value as a prophylactic against ophthalmia neonatorum.

Moutinho (Excerpta med.)

MISCELLANEOUS

The Fundus in Lymphogranuloma Venereum. (O fundo de olho na linfogranulomatose venerea.) PRADO, E., DA SILVA LACAZ, C., and DE SOUZA, L. (1950). *Rev. bras. Oftal.*, **9**, 87. 5 figs, 16 refs.

The authors carried out a systematic examination in 92 patients. They found that Funakawa-Kitagawa's sign is present in the great majority of lymphogranuloma venereum patients, but feel that any hypothesis as to the pathogenesis of this sign would be premature. The frequency with which this sign is found, associated with other clinical data and laboratory findings, shows it to be a valuable element in the diagnosis of lymphogranuloma venereum. *M. E. Alvaro*

The Therapy of Experimental Psittacosis and Lymphogranuloma Venereum (Inguinale). I. The Comparative Efficacy of Penicillin, Chloramphenicol, Aureomycin, and Terramycin. HURST, E. WESTON, PETERS, J. M., and MELVIN, P. (1950). *Brit. J. Pharmacol.*, **5**, 611. 9 refs.

The virus strains used were : (1) A lymphogranuloma venereum virus (LGV) maintained by passage through developing hens' eggs. This virus was passed intracerebrally and intraperitoneally in mice and a virus obtained which infected mice on intraperitoneal injection. LGV infections were treated both in egg yolk and in mice. (2) The M.O.H. 154 strain of psittacosis virus maintained by intraperitoneal injection in mice. (3) K.L.G. virus, supposed to be a mouse-virulent lymphogranuloma venereum virus, but immunologically being more nearly related to psittacosis virus : it was maintained as was (2).

The yolk sacs of groups of about twenty 6-day embryos were infected with LGV virus, and 2 hours later one of the test substances or water was injected. Untreated controls died in about 4 days. With treatment, longer survival occurred and some survived until the 20th day of incubation, when the eggs were opened. Terramycin was most effective ; 0·1 mg. increased mean survival time of one group to 11·2 days. The other antibiotics were less effective in the order aureomycin, chloramphenicol (in propylene glycol), and penicillin.

The tests on mice were severe ; 10^3 or 10^5 LD 50 was injected intraperitoneally into groups of thirty mice and treatment was sometimes delayed for several days. The authors stress the importance of observing animals for a long period after treatment stops. In one group treated for 12 days with chloramphenicol only six mice died before the 21st day, but eighteen died between the 22nd and 39th days. The average survival of controls was 6·7 days.

The different strains showed similar responses to treatment. Aureomycin and terramycin were most effective ; doses of 1 or 2 mg. orally twice daily for 12 days often reduced the number of deaths from about 25 to 0 or 1 out of 30. Procaine penicillin, 30,000 units per 20 g. body weight subcutaneously every third day, was also effective. Chloramphenicol was less effective. A combination of aureomycin with procaine penicillin was not more effective than aureomycin alone. Aureomycin (oral) was effective against virus introduced intracerebrally, intravenously, or intraperitoneally, while penicillin given subcutaneously was effective only against the latter.

The amount of virus in six pooled spleens was titrated in other mice on each of the first 6 days of treatment. The results confirmed the effectiveness of the antibiotics in suppressing the virus, aureomycin, for example, reducing the amount of virus by a factor of about 10^6. The persistence of virus in the spleens of mice surviving infection was shown when pooled spleens were passed into test mice. When 10 per cent. suspensions of individual spleens were passed into three mice, virus was detected in 50 per cent. of the spleens of control survivors. The percentage of carriers in treated mice varied. The earlier treatment started, the greater the

percentage of carriers. Those treated with penicillin only showed 24 per cent. carriers among the survivors ; aureomycin treatment, however, left 65·3 per cent. carriers. The evidence suggests that this difference was not merely due to the fact that a large number of animals survived after aureomycin, since the proportion of the total number of mice infected which appeared as carriers was less with penicillin than with aureomycin. The large number of carriers among the aureomycin-treated mice at 35 to 50 days contrasted with the comparative absence of virus during treatment and suggested that the virus grew again after treatment stopped. A direct experiment confirmed this ; half of a group of mice surviving after aureomycin for 12 days were killed on the 13th day, the remainder were killed on the 40th day. The spleens of the second group contained more virus than the spleens of the first group.

R. P. Stephenson

Aureomycin Therapy in Lymphogranuloma Venereum. FLETCHER, A., SIGEL, M. M., and ZINTEL, H. A. (1951). *Arch. Surg., Chicago*, **62**, 239. 28 refs.

The authors, in treating a group of nineteen cases of lymphogranuloma venereum with aureomycin at the University of Pennsylvania Hospital, had three objects in view : (1) to study the effectiveness of aureomycin when administered orally ; (2) to observe the clinical course of the patients for a period of months after treatment ; and (3) to study the effect of treatment on the persistence of complement-fixing antibodies in the blood serum.

The dosage of aureomycin given orally, was 2·0 g. daily for 7 or, later on, 28 days, nausea and vomiting making it necessary in some cases to reduce this to 1·0 g. daily or even to discontinue it ; the dosage given intramuscularly was 20 mg. daily for 10 days.

The patients were subdivided into four groups : (1) acute inguinal adenitis ; (2) proctitis without stricture ; (3) rectal stricture without colostomy ; and (4) rectal stricture with colostomy.

There were three patients in the first group, in each of whom the buboes subsided within 2 weeks of the start of treatment. They were followed up for periods of 8 to 11 months, two of the three (treated orally) remaining symptom-free and showing a marked and progressive fall in the titre of complement-fixing antibodies in their serum. The third patient, who was treated with intramuscular aureomycin, showed no definite decrease in titre and had a mild recurrence of adenitis 2 weeks after stopping treatment. In the second group there were two patients, one of whom was treated with intramuscular aureomycin on two occasions and the other with chloramphenicol, 3 g. daily by mouth for 28 days. In the first patient clinical improvement began after 2 days of treatment ; there was complete relief of symptoms for 5 months, but relapse then occurred and further treatment only resulted in slight improvement. The other patient was clinically improved but proctoscopic examination suggested early stricture formation. In the third group there were seven patients, all of whom were treated with oral aureomycin, the total dose ranging from 28 to 70 g. In two cases there was no improvement, but in five symptomatic relief followed although objective improvement was less striking. In the fourth group there were also seven cases, three of whom were first treated by intramuscular injection of aureomycin for 10 days, further treatment being then given by mouth, while the remainder were treated entirely with oral aureomycin. Total dosage ranged from 10 to 64 g., and the period of observation from 9 to 12 months. In some cases there was subjective improvement, but there was found to be only slight change in the stricture.

Of the whole group of nineteen patients only two showed a definite fall in the antibody titre ; these were cases of acute inguinal adenitis, the virus apparently surviving treatment in the more chronic infections. The authors feel that a final conclusion concerning the effects of aureomycin must await further observation of these patients over a period of years. *H. S. Laird*

Ghoul Hand. JELLIFFE, D. B. (1950). *J. trop. Med. Hyg.*, **53**, 238. 1 fig, 13 refs.

Ghoul hand is a form of keratotic vitiligo ; it is usually symptomless and has a slow insidious onset. It is generally bilateral and occurs almost exclusively in males. The skin of the palms lacks pigment and is white or yellowish : the depigmentation often extends to the dorsum of the fingers and hand. Scattered areas of brownish hyperpigmentation are present on the pale skin. The palmar skin is greatly thickened, dry, inelastic, taut, and slightly translucent ; the mobility of the hand is consequently reduced. Pain is uncommon. Twenty cases were examined in order to assess any connexion with yaws. Signs of chronic yaws were present in fifteen, and twelve gave a positive past history. The Kahn test was strongly positive in all cases. Results of treatment with neoarsphenamine were difficult to assess, but four patients showed increased mobility of the hand. A similar condition of the soles was noted in four cases. The author believes that ghoul hand is probably due to tertiary yaws, and compares the lesion to the dyschromic skin lesions of chronic pinta.

W. H. Horner Andrews

Phase Contrast Microscopy for Demonstrations of *Treponema pertenue* in Yaws Lesions. LOUGHLIN, E. H., JOSEPH, A., and SCHAEFFER, K. (1951). *Amer. J. trop. Med.*, **31**, 26.

A Winkel-Zeiss phase-contrast microscope with a 90X condenser phase ring and a 90 Z oil-immersion objective was used to study *Treponema pertenue*.

The treponemata were seen as delicate spiral organisms, measuring 14 to 20 μ in length. They have six to twelve regular turns and the distance between spirals is about 1μ. During quieter phases they may be observed to have almost straight tapering ends. Normally, however, they are actively motile and constantly rotating on their long axes. They have moderately rapid translational movement but when debris or cells are encountered they may become temporarily attached and show considerable elasticity, sometimes stretching until the spirals almost disappear. When two or three meet they may entwine and form an undulating " Y ", or slide along

their long axes to appear momentarily as extremely long organisms until they part company. During all of this time spiral movement is maintained.

The dark-field microscope is considered too cumbersome for such work and it fails to provide the definition of structure obtained by the phase-contrast microscope.

R. R. Willcox

The Chancre of Yaws. A Primary Inoculation Lesion. (Le chancre pianique. Lésion primaire d'inoculation.) Montel, M. L. R. (1951). *Sem. Hôp. Paris*, **27**, 453. 18 figs, 25 refs.

The description of the initial lesion of yaws varies from author to author. This is ascribed to the rarity with which this lesion is seen in its early stages; objections are brought forward to some of the inoculation experiments of the past.

The present author states: "My experiences in Cochin China have convinced me that if one looks for the primary lesion with care, one will always find it." The primary lesion, the chancre, is an ulcer, whereas secondary yaws are papillomatous and heal without ulcerating. The chancre is found mostly on the lower limbs. From 10 to 20 days after its appearance it is a circular or oval ulcer, 3 to 6 cm. or more in diameter, with rounded raised edges ("cushions") which overhang the surrounding skin. It is covered by an adherent crust, underneath which are fleshy red non-papillomatous granules. In the centre is a "diphtheroid" membrane. The serous exudate from the lesion contains *Treponema pertenue* in large numbers. On palpation, the base of the chancre is found to be infiltrated but supple.

Variations in the form of the chancre include crater-like types with greatly raised borders, vegetative, giant, and multiple types.

One month after its appearance the chancre begins to change: the raised part subsides and the skin edges become raised. The ulcer remains red. When the secondary eruption occurs some chancres are invaded by secondary yaws: these appear to increase the rate of healing and drying.

This invasion gives the appearance described as a "mother yaw". Other chancres are not invaded by the secondary eruption and develop into indolent purulent ulcers with a necrotic base. An allergic reaction is postulated to account for long-standing necrotic ulcers which are often taken for phagedaenic ulcers. The scar of a healed chancre is typical: it is whitish, the skin is atrophic and devoid of hair, sweat glands, and sebaceous glands.

On the basis of five biopsies the chancre is described as due to a true ulceration: plasmocytes were present in large numbers in the dermis, together with lymphocytes and polymorphonuclear leucocytes and, especially, eosinophils. The true dermis always showed signs of sclerosis.

[This paper is rather dogmatic and contains one or two minor contradictions, but the ideas expressed deserve further investigation.] *W. H. Horner Andrews*

Aureomycin and Chloramphenicol in Chancroid. WILLCOX, R. R. (1951). *Brit. med. J.*, **1**, 509. 16 refs.

Bubo fluid from patients suffering from chancroid ulcer was found to be of high virulence on inoculation into volunteer recipients. The development of a chancroid ulcer by inoculation was prevented by instituting treatment with chloramphenicol or with aureomycin. Inoculation of bubo fluid collected from the patient after his treatment with chloramphenicol or with aureomycin had been started gave unsuccessful results in every case.

The chancroid ulcer in two cases treated with chloramphenicol (250 mg. orally three times daily for 3 days) and in one case treated orally with aureomycin (2,000 mg. during 3 days) healed in 3 to 5 days.

In one of these cases a bubo needed aspiration on the fourth day, but the aspirated fluid proved to be avirulent on inoculation. *V. E. Lloyd*

The Treatment of Yaws by Aureomycin. AMPOFO, O., and FINDLAY, G. M. (1950). *Trans. roy. Soc. trop. Med. Hyg.*, **44**, 311. 12 refs.

The authors have previously reported the treatment of three cases of yaws with aureomycin (*Nature, Lond.*, 1950, **165**, 398).

In the cases now described, six African children with secondary yaws, one of whom had a yaws ulcer in addition, and a seventh child with yaws periostitis were all treated with 250 mg. aureomycin given orally three times daily for 7 days. No toxic effects were noted. As it is usual in West Africa for yaws to be treated with intramuscular injections and the natives are convinced of their superiority to oral treatment, a daily intramuscular injection of 1 ml. of physiological saline was given in addition.

The follow-up period ranged from 6 weeks to 6 months, and of two patients tested after 6 months the serum reaction for syphilis (Kahn) was found to be negative in one and only doubtfully positive in the other.

The advantages of an oral over an injection method of treatment in mass campaigns are pointed out.

R. R. Willcox

Chloramphenicol in the Treatment of Yaws and Tropical Ulcer. AMPOFO, O., and FINDLAY, G. M. (1950). *Trans. roy. Soc. trop. Med. Hyg.*, **44**, 315. 8 refs.

Three African children with tropical (phagaedenic) ulcers situated in the region of the ankle were given two 250-mg. capsules chloramphenicol three times daily for one week.

Numerous spirochaetes and fusiform organisms were found in smears taken from the ulcers before treatment; these disappeared within 48 hours and the ulcers all healed within 3 weeks of starting treatment. One patient developed an irritant erythematous rash on the third day, but treatment was not interrupted. Three other patients, whose ulcers also contained spirochaetes and fusiform bacilli before treatment, were given 2 g. chloramphenicol daily in divided doses, morning and

evening, for 4 days. The ulcers healed within 3 weeks in two cases, but in the third case healing took 35 days. During a follow-up of 2 months no recurrences were noted. [The potentialities of these oral antibiotics in the treatment of this disabling condition, which is widespread throughout tropical Africa, are enormous.]

In addition, four children with secondary yaws were given 10·5 to 21·0 g. chloramphenicol over a period of 7 days. The lesions began to dry up within 48 to 72 hours and had all healed by the time that the treatment had been completed. Six weeks later the Kahn test response was still positive, but observation continues.

R. R. Willcox

Virus Conjunctivitis and Urethritis. (Conjonctivite et urétrite à ultra-germes.) DUREL, P., OFFRET, G., SIBOULET, A., and PLESSIER, P. (1950). *Bull. Soc. Ophtal. France*, No. 7, 566. 3 refs.

The authors observed three cases of follicular conjunctivitis in which similar inclusion bodies were found in the conjunctival and genital mucosae. The three cases responded to treatment with chloramphenicol or aureomycin. *J. Rougier*

Aureomycin in Intractable Non-specific Urethritis. THOMSON, W. McL. (1951). *Med. J. Aust.*, **1**, 149.

Aureomycin by mouth was given in six cases of non-specific urethritis which had failed to respond to sulphonamides, penicillin, and other measures. The symptoms disappeared promptly, but two patients relapsed; however, further oral aureomycin cleared up these cases and all were eventually cured. *G. M. Findlay*

***Trichomonas vaginalis* Vaginitis: Treatment with a New Surface-active Trichomonacide.** HUNDLEY, J. M., DIEHL, W. K., SHELANSKI, H. A., and STONE, R. L. (1950). *Amer. J. Obstet. Gynec.*, **60**, 843. 2 figs, 10 refs.

A new trichomonacide, " tetronyl ", has been tried in the treatment of vaginitis due to *Trichomonas vaginalis* and found to be simpler and safer to use and more rapidly effective than preparations hitherto employed. It is a mixture of two quaternary ammonium compounds (1 per cent.) in a vehicle of sodium carboxymethylcellulose (99 per cent.). It is non-toxic to animals when given by mouth, is non-irritant to human skin, and does not cause sensitization. Dilutions of 1 in 10,000 kill trichomonads *in vitro* in under one minute. The quaternary ammonium compounds rupture the cell by causing it to imbibe fluid, while the sodium carboxymethylcellulose acts as a dispersing agent. It is effective at any *p*H from 3·2 to 10, and also kills *Monilia albicans* and many bacteria.

Treatment is very simple. Without preliminary cleaning the vagina is insufflated with tetronyl powder through a bivalve speculum; this is repeated once a week up to 4 weeks. In addition the patient applies tetronyl jelly twice daily. Menstruation must not interrupt treatment. Of 100 cases thus treated, 73 were negative to laboratory examination within 1 week, and 94 within 4 weeks. There were five failures and one recurrence at the third visit. No toxic symptoms were observed. *Margaret Puxon*

Comparison of the Efficacy of Various Methods of Treatment of *Trichomonas vaginalis* Vaginitis. (К вопросу об эффективности различных методов лечения трихомонадных кольпитов.) LEVINSON, M. I. (1950). *Akush. Ginek.* No. 6, 42.

The efficacy of the various methods of treatment of *Trichomonas vaginalis* vaginitis was compared. To a series of 118 cases, six different chemical products were administered; the other relevant factors were concomitantly analysed.

Among the drugs sulphur and sulphur soap seemed to produce the best results, though none of the methods is infallible. Among the relevant factors the following are suggested for investigation: (1) Examination of urethra, cervical canal, vulva, and rectum. (2) Investigation of the husband's sexual organs for *Trichomonas vaginalis*. Sexual life should be interrupted for the duration of treatment. Cleansing of adjacent organs after defaecation is stressed to prevent reinfection from the rectum. Measures to improve general health are also strongly emphasized; they increase body resistance to any infection and to *Trichomonas vaginalis* infection in particular. *E. W. Collis*

A Morphologic and Cytochemical Vaginal-smear Study: the Effect of Topical Penicillin in the Treatment of Focal Infections of the Vaginal Tract. AYRE, W. B., FAVREAU, R., and AYRE, J. E. (1950). *Amer. J. Obstet. Gynec.*, **60**, 798. 2 figs, 12 refs.

The authors report the results of a small investigation into the effects of local penicillin therapy on the vaginal mucosa. A total of fifteen patients with chronic cervicitis were treated with suppositories containing 100,000 units of calcium penicillin in a cocoa-butter base. One suppository was inserted nightly for from 7 to 10 days. The results were evaluated clinically and by the vaginal smear technique.

There was symptomatic improvement in most cases. The vaginal smear showed a rapid disappearance of bacteria and leucocytes, an increase in the previously diminished glycogen content of the cells, and an increase in epithelial cornification. The authors conclude that penicillin acts locally as an antibacterial agent and in this way controls the depression of vaginal glycogen due to infection. They note that the increased cornification is identical with that produced by oestrogen activity, and remark the suppression of the usual menstrual cyclic change in cornification in patients under treatment.

[An extension of this survey to post-menopausal women should show how far local penicillin can have an oestrogenic effect on the vagina.] *W. J. Mills*

Urine and Prostatic Fluid. A Study of 50 Normal Males. WINSTEAD, G. A. (1950). *Urol. cutan. Rev.*, **54**, 705. 10 refs.

A midstream urine sample and a specimen of prostatic

fluid were obtained from fifty normal males having no present or past history of urinary-tract infection : 25 of the subjects were white and 25 coloured, and the results are rather vitiated by the fact that no fewer than seventeen of the latter group gave a past history of gonorrhoea.

Organisms were cultured from the urine of ten of the 25 whites, and from seventeen of the 25 coloured. *Aerobacter aerogenes*, *Proteus vulgaris*, and α-haemolytic streptococci were found, in that order. A positive culture from the prostatic fluid was obtained in seven white and twelve coloured subjects, the bacteria found being *A. aerogenes*, anaerobic streptococci, *Bacillus subtilis*, and paracolon bacilli and diphtheroids, in that order. All the cases showed lecithin bodies and a few leucocytes in the prostatic secretion (the average was six to ten per high-power field). In the deposit of urine from four coloured subjects *Trichomonas* was noticed—no symptoms being attributable to its presence. *F. B. Cockett*

The Diagnosis and Test of Cure of Chronic Prostatitis. (Zur Diagnose und Feststellung der Heilung der chronischen Prostatitis.) RIEDEL, G. (1951). *Derm. Wschr.*, **10**, 25. 27 refs.

Results of diagnostic tests for chronic prostatitis, such as palpation, expression, and the two-glass test, may be negative ; phosphaturia, prostatorrhoea, and disturbance of micturition may be absent in spite of the presence of infection ; this condition is called dry prostatitis by some authors. To diagnose the presence or absence (that is, cure) of chronic prostatitis and to differentiate it from sexual neurasthenia a new method of investigation is described.

The report is based on 43 cases from the dermatological clinic of the University of Tübingen. From none of these cases were gonococci cultured ; seventeen patients gave a history of gonorrhoea ; six of these had a positive gonococcal complement-fixation reaction, but three only after a provocative dose of streptomycin. In the method described use is made of all the above-mentioned tests, but in addition total and differential leucocyte counts are performed and the erythrocyte sedimentation rate (E.S.R.) measured 1, 2, and 24 hours after prostatic massage. This is of course contraindicated in acute cases.

A variation of at least 800 per c.mm. in the count of polymorphonuclear leucocytes is regarded as diagnostic. The author has not found a lymphocytosis, monocytosis, and shift to the right as previously described, but a shift to the right and fall in lymphocyte count. The E.S.R. rose in all cases of haematogenous chronic prostatitis, but in only 26 per cent. of the post-gonorrhoeal cases and in 23 per cent. of the non-specific cases. The changes in the total and polymorphonuclear leucocyte counts were found in 90 per cent. of all cases, though in some cases only one of the two gave significant results.

As prostatic massage may produce a fall in blood pressure, the latter was determined at 1, 3, and 10 minutes after prostatic massage ; in one case in the series the pressure fell from 145/95 to 110/75 mm. Hg.

Ferdinand Hillman

Intraprostatic Injection of Penicillin. HATCH, W. E. (1950). *J. Urol.*, **64**, 763. 1 fig, 4 refs.

Chronic prostatitis very often fails to respond to any of the recognized local treatments such as heat, prostatic massage, and irrigation of the posterior urethra. In an attempt to place an effective antibiotic actually in the infected gland the author devised a technique of penicillin injection directly into the prostate ; fifty cases of chronic prostatitis which had failed to respond to any other form of treatment were injected. The perineal route was used, the needle being guided into the gland by one finger placed in the rectum. Preliminary cultures of prostatic smears were made in sixteen cases, and all except one (pure *Staphylococcus aureus*) showed a mixed flora of *Streptococcus faecalis*, *Staphylococcus albus*, and diphtheroids. Very few complications have been met ; three patients had transient haematuria following the injections. No case of epididymitis or urinary retention was found. The injection itself is painful.

The criteria of cure have been relief of genito-urinary symptoms and a reduction of pus cells in the prostatic-massage secretion ; nineteen out of thirty patients followed up were cured by these criteria.

F. B. Cockett

Increased Incidence of Non-specific and Specific Epididymitis in the Post-war Period. (Über gehäuftes Auftreten von unspezifischen und spezifischen Nebenhodenentzündungen der Nachkriegsjahre.) SCHULZE, W. (1950). *Zbl. Chir.*, **75**, 1177. 1 fig.

An increase of non-specific epididymitis with a tendency to suppuration is reported to have occurred during the post-war period in Germany. A similar rise was experienced after the first World War, and it is suggested that in both cases malnutrition with protein deficiency has been a causative factor. Although tuberculous epididymitis has shown no comparable increase, this disease has tended to run a more acute course, with early involvement of the testis. The non-specific cases fall into two main groups—those in elderly patients with prostatic obstruction in whom catheterization has been adopted, and those in younger patients with metastatic or traumatic epididymitis in whom evidence of malnutrition is often clearly shown.

Many of the author's cases have been treated conservatively with chemotherapy, but operative treatment has been required in about one-third. In some tuberculous cases, especially when one side has already been treated surgically, treatment with thiacetazone (thiosemicarbazone) has been employed with a small number of satisfactory, although often delayed, results. On the whole, where practicable, radical surgery has brought speedier relief.

[The author's figures relating to the increase in non-specific epididymitis refer to the period 1944–9. There do not appear to be any comparable figures for earlier years, and there was actually a decline in the number of cases in 1949.] *J. D. Fergusson*

Experimental Production of Epididymitis with Sterile Urine ; Clinical Implications. GRAVES, R. S., and ENGEL, W. J. (1950). *J. Urol.*, **64**, 601. 5 figs, 21 refs.

In this paper from the Cleveland Clinic, Cleveland, Ohio, a short description of the common types of epididymitis is given, followed by a résumé of the literature on abacterial epididymitis and the evidence in favour of its causation by retrograde flow of urine down the vas. In the authors' opinion this is due to sudden physical stress with a full bladder and sudden increase in intra-abdominal pressure. A description of the clinical picture is given, indicating the relation to stress, the presence of soreness of the tail of the epididymis and sterile urine, and absence of abnormal prostatic or seminal vesicular symptoms. Experiments carried out on dogs are described in which sterile urine was injected at operation down the right vas, and an equal amount of sterile saline down the left. The vasa were ligated after the injections. Of the ten animals, six developed pathological evidence of right epididymitis confined to the globus minor.

[The experimental evidence is not very sound, as ligation of the vas was carried out in each case, but in some degree it does support the authors' contention. The first part of the paper provides a very interesting review of the literature on this subject.]

Roland N. Jones